



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/664,676 | 09/18/2003 | Thomas J. Ribarich | IR-2370 (2-3862) | 4067 |
| 7590 | 10/06/2004 | | EXAMINER | |
| OSTROLENK, FABER, GERB & SOFFEN 1180 Avenue of the Americas New York, NY 10036-8403 | | | VO, TUYET THI | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2821 | |

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|------------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/664,676 | RIBARICH ET AL. <i>PN</i> | |
| | Examiner | Art Unit | |
| | Tuyet Vo | 2821 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 September 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-24 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 9-15 and 18-24 is/are allowed.

6) Claim(s) 1,2,5-7,16 and 17 is/are rejected.

7) Claim(s) 3,4 and 8 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/24/04.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of 35 U.S.C. 102 (e) which forms the basis for all obviousness rejections set forth in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 5-7, 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Borella et al. (US Pub. 2003/0006720).

Regarding claims 1, 2, 16 and 17, Nakano discloses an electronic ballast apparatus and method as well for energizing gas discharge lamps comprising:

a half bridge driver circuit (41, 42) for driving the power switch (33);
a voltage controlled oscillator (44) coupled to the driver circuit (41, 42) for providing signals to the driver circuit for operating the power switch;
a feedback circuit ((36, 37) coupled to the driver circuit and the oscillator for providing control information to the control circuit based on output values of the driver circuit; and
a fault responsive circuit coupled to the feedback circuit and the driver circuit for responding to faults detected in the feedback circuit; and the fault response circuit is operable to disable the driver circuit upon detection of a fault (page 3, [0039]).

Regarding claims 5-7, Nakano further discloses a minimum frequency input signal supplying to the switching control circuit and current source coupled to the feedback circuit for adjusting the switching control circuit (Fig. 4).

Allowable Subject Matter

3. *Claims 9-15 and 18-24 are allowed.*
4. Claims 3, 4 and 8 are rejected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims with correction as mention above.
5. The following is a statement of reasons for the indication of allowable subject matter: the prior fails to provide a fault criteria in the fault response circuit; and the fault criteria includes at least one of a crest factor indication and a zero volt switching indication as required in claim 3 or a bootstrap diode coupled between the power input and the driver circuit to contribute to providing a start up voltage for the driver circuit as required in claim 4 and the feedback circuit is operable to process a signal from the driver circuit and influence the switching control circuit to obtain zero volt switching and minimum current switching for the switch as required in claims 8 and 9. The prior art also lacks to support steps of decreasing the switching frequency toward a resonant load resonance frequency to increase current and voltage supplied to the lamp; preventing the half bridge circuit from operating if there is at least one of a lamp ignition failure and an excessive load current; and maintaining the switching frequency near the resonant frequency after the lamp has ignited as required in claim 18.

Citation of pertinent prior art

6. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Nalbant (US Pat. 5,615,093) discloses current synchronous zero voltage switching resonant topology.

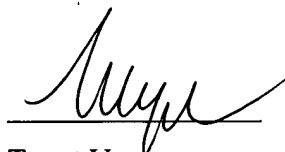
Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyet Vo whose telephone number is 571 272 1830. The examiner can normally be reached on Mon-Fri.

Art Unit: 2821

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571 272 1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9306 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Tuyet Vo

Primary examiner

October 01, 2004